

Work Order ID 60257

Wednesday, June 30, 2010 8:53:22 AM



Page 1

Item ID: D212-664-207

Accept



Setup Start



Revision ID:

Item Name: Crosstube Low Standard Aft

Stop



Start Date: 6/30/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 7/7/2010 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan:



Date: 10630

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

Draw Nbr	Revision Nbr
D212-664-247	Rev B

100



DOCUMENT CONTROL

DC

Document Control

Memo

0.00

0.00

S10630

H for BG 10/07/13

110



Pick Kit

Packaging

Packaging

Memo

0.00

0.00

Packaging

120



BENDING MACHINE - CROSSTUBES

CNC Bend 2

CNC Alpha 160 Bender

Memo

0.00

Bend tube as per Dwg D212-664-247 using CNC bender program and Folio FT

IX

X

MB 10-07-13

IX

X

MB 10-07-13

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE		By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Cust Item ID:

Required Date: 7/7/2010 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run

Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

130



QC

Quality Control

QC15- Crosstube Dimensional Check

0.00

S 10/07/14

YD

140



Crosstubes

Crosstubes

0.00

Memo

0.00

1-Drill-Rivet holes as per Dwg D212-664-247 using DT8972.***Use T-Pin***

2-Drill pilot holes in tube as per Dwg D212-664-247 using DT8550 and DT8551

3-Ream hole to finish size in tube as per Dwg D212-664-247

4-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D212-664-247

5-Scribe part # and batch # using vibrating stylus as per Dwg D212-664-247

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Date: _____

Tooling: _____

Date: _____

Run Start



QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

150



Crosstubes Chemical Conversion

0.00

/

-

Av M
10-07-20

HandFXtube

Hand Finishing Crosstubes

Memo

0.00

S101021

160



QC3- Inspect Part Finish

0.00

Memo

0.00

S101021

170



QC5- Inspect part completeness to step on W/O

0.00

QC
Quality Control

Memo

0.00

(X)

W/O:		WORK ORDER CHANGES					
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Required Date: 7/7/2010 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run

Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

180



Outsource process - NDT per QSI038 4.1

0.00

CL 10/7/21 0

Outsource2

Memo

0.00

Outsource process - NDT

Liquid Penetrant Inspection as per QSI 038

Issue P/O: 10307 LPI as per ASTM 1417

Level 2 Attach copy of NDT results to work order

190



Receive & Inspect for Damage & Mat'l Certs

0.00

Packaging

Memo

0.00

Packaging

Ensure copy of NDT results attached to work order.

CL 10/7/21 0

200



QC5- Inspect part completeness to step on W/O

0.00

a

Memo

0.00

Quality Control

Inspect for damage & ensure results are as per Dwg D212-664-207

CL 10 07 21 0

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Required Date: 7/7/2010 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run

Start



QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

Sequence ID/
Work Center ID

210



Crosstubes

Operation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

0.00

0.00

m/

1.0

07

27

(1)

Crosstubes

Crosstubes

Crosstubes

Memo

1-Rivet and assemble Cuffs with T-Pin in the through bolt holes as per Dwg
D212-664-247. with Sika flex in Between tube & Cuff

A/R SIKAFLEX -241/291 BATCH: 115114

215



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

8.06.23

x

Memo

Inspect cuff with T-Pin

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Required Date: 7/7/2010 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run

Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

220



SprayPaint

Spray Painting

Spray Painting per QSI005 4.2

0.00

SprayPaint

Memo

0.00

1-Prime inside and outside crosstube as per QSI 005 4.2

2-Paint outside crosstube with White Imron as per QSI 005 4.2

PRIME: 9:00Start Time: 8:00Finish Time: 8:30

PAINT:

Start Time: 1:30Finish Time: 2:30

230



QC

Quality Control

QC14- Inspect Spray Paint

0.00

Memo

0.00

Wrap in plastic bag to protect from scratches

M 18 01 0701

25 10-07-28

W/O:		WORK ORDER CHANGES							
DATE	STEP	PROCEDURE CHANGE			By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA _____ Date: _____

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Work Order ID 60257

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Item ID: D212-664-207

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Cust Item ID:

Required Date: 7/7/2010 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run

Start



QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

240



Crosstubes

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Item ID: D212-664-207

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Customer:

Reference:

Approvals: Process Plan: _____ Date: _____

Tooling: _____

Date: _____

Run

Start



QC: _____ Date: _____

SPC (Y/N): _____

Date: _____

Stop

Sequence ID/
Work Center ID

255



Packaging

Packaging

Operation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

0.00

0.00

Solutions

260



QC

Quality Control

QC4- 100% Inspect kits for completeness

0.00

0.00

10/7/29 SP

270



Packaging

Packaging

Packaging

0.00

0.00

Identify and pack for shipping as per PPP D212-664-207

PWS

10/7/28 CJ

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE		By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Work Order ID 60257

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Item ID: D212-664-207

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Revision ID:

Item Name: Crosstube Low Standard Aft

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Start Date: 6/30/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 7/7/2010 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run

Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center ID

280



QC

Quality Control

Operation
Description

QC21- Final Inspection - Work Order Release

Set Up/
Run Hours

0.00

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

10/07/30 80

10/07/29 1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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NOTE: Date & initial all entries

Picklist Print

Wednesday, June 30, 2010 8:53:28 AM

Page 1

Work Order ID: 60257



Parent Item: D212-664-207



Parent Item Name: Crosstube Low Standard Aft

Start Date: 6/30/2010

Required Date: 7/7/2010

Start Qty: 1.00

Required Qty: 1.00

Comments:

IPP Rev:A New Issue 07.09.12 EC verified by: JLM
 IPP Rev:B ECN 1100p 08-01-11 DD verified by: EC
 IPP Rev:C ECN 1121 08-02-25 DD verified by: eC
 IPP Rev: D QC5 replaced by QC15 at step 5 KJ Verified by: ec

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D212-664-207TRN		Manufactured	No			110	Each	2.0000	1	1			

Crosstube Turning Detail

Location	Loc Qty	Loc Code
LG	2	
56629	1	
56783	1	

D3660-1



Manufactured

No

140 Each 10.0000

CUFF



Location	Loc Qty	Loc Code
ST477	10	
53501	10	

CR3212-4-06



Purchased

No

220 Each 1,441.000

CHERRY RIVET



Location	Loc Qty	Loc Code
ST311	1441	
112492	156	
112612	285	
112724	200	
112794	800	

10-07-27

MB 10-07-12

BB 10-07-19

W/O:		WORK ORDER CHANGES						
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Page 2

Work Order ID: 60257



Parent Item: D212-664-207



Parent Item Name: Crosstube Low Standard Aft

Start Date: 6/30/2010

Start Qty: 1.00

Required Date: 7/7/2010

Required Qty: 1.00

D3595-063-530

Manufactured No



RUBBER CUSHION

240 Each 117.0000 4 4



<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP	80	
50030	12	
<u>51776</u>	68	
LG	37	
59581	37	

ML 10.07.28

D2940-1

Manufactured No



Support

240 Each 33.0000 2 2



<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
LG	33	
45203	1	
<u>47748</u>	12	
57338	20	

ML 10.07.28

MS21920-28

Purchased No



Clamp(per MIL-DTL-8783C)

240 Each 123.0000 4 4



<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FG	5	
105884	5	
LG	118	
<u>112863</u>	26	
<u>114749</u>	92	

ML 10.07.28

D3428-1

Manufactured No



Placard

255 Each 0.0000 1 1



B60133 10.7.29 S

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA _____ Date: _____

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Parent Item Name: Crosstube Low Standard Aft

Start Date: 6/30/2010

Start Qty: 1.00

Required Date: 7/7/2010

Required Qty: 1.00

MS21042L6



Nut

Purchased

No

255

Each

241.0000



6

6

10/7/29 SL

AN960JD616

NAS1149D0663J

Purchased

No

255

Each

0.0000



18

6

11149 88 10/7/29 SL

Washer

AN6-40A



Purchased

No

255

Each

75.0000



4

4

10/7/29 SL

Bolt

AN6-41A



Purchased

No

255

Each

56.0000



2

10/7/29 SL

Bolt

Location

Loc Qty

Loc Code

ST343

75

112828

25

114283

50

112828

56

113288

6

112805

50

2

2

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE		By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

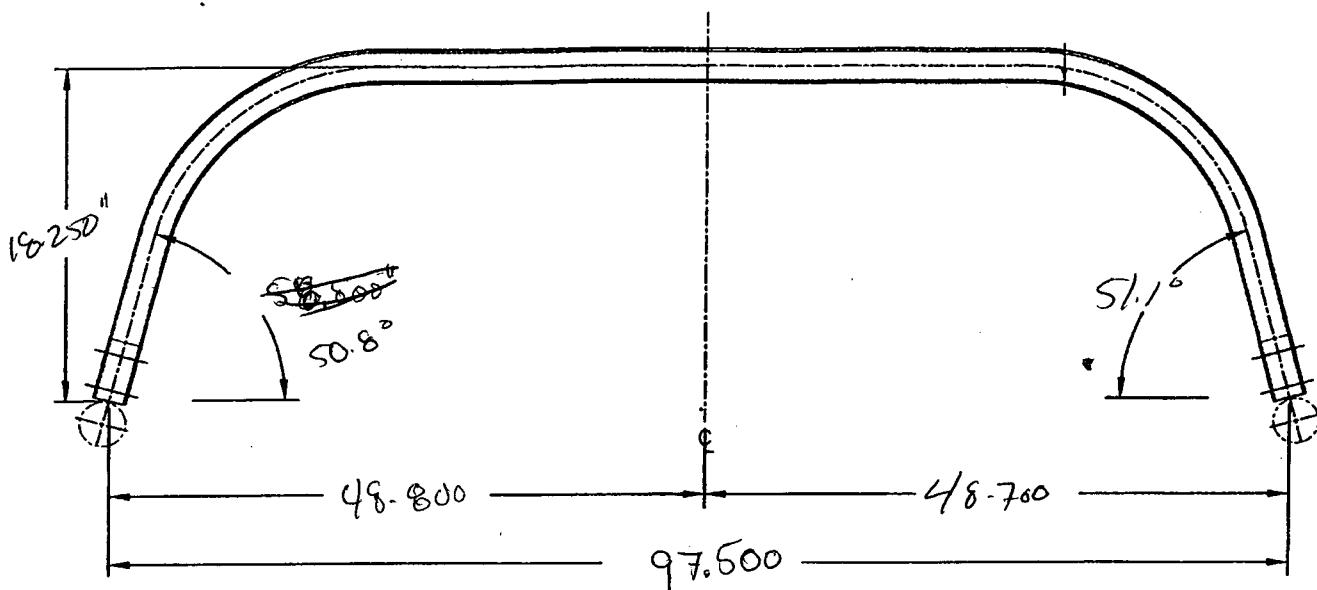
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DART AEROSPACE LTD	Work Order:	40237
Description: Crosstube Low Aft (205/212)	Part Number:	D212-664-207
Inspection Dwg: D212-664-247	Rev: B	Page 1 of 1

Required Dimension	Min	Max
Height	18.16	18.42
1/2 Span	48.55	48.81
Angle	49	52
Total Span	97.1	97.62



Comments		

QC15 Inspection	S
Date	10/07/14

Rev	Date	Change	Revised by	Approved
A	08.02.29	New Issue	KJ/JM	<i>[Signature]</i>
B	10.04.01	Dwg Rev updated	KJ	<i>[Signature]</i>

W/O:		WORK ORDER CHANGES							
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NOTE: Date & initial all entries

8 7 6 5 4 3 2 1

B

Item	Qty	Qty	Part Number	Description
		-247	-247B	
1	X		D212-684-247	CROSSTUBE ASSEMBLY (205/212 LOW AFT)
2		X	D212-664-247B	CROSSTUBE ASSEMBLY (214 LOW AFT)
3	1	1	D6008-132	CROSSTUBE
4	2	2	D2940-1	SUPPORT
5	4	4	D3595-063-530	RUBBER CUSHION
6	2	2	D3660-1	CUFF
7	4	4	MS21920-28	CLAMP (OR MS21920-30)
8	44	44	CR3212-4-06	RIVET (OR M7885/3-4-06)
9	A/R	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)
10	A/R	A/R	SIKAFLEX-241/-291	SEALANT (OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT)

GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6008-132
FINISHED LENGTH = 128.268±0.020 (BEFORE BENDING/TRIMMING)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER "D212-664-XXX" AND BATCH NUMBER ON INSIDE OF CUFF USING VIBRATING STYLUS.
- 7) WEIGHT: D212-664-247 = 36.6 lbs (PER IIN-D212-664)
D212-664-247B = 36.6 lbs (PER IIN-D212-664)
- 8) PART IS SYMMETRIC ABOUT CENTERLINE.
- 9) WHEN MACHINING TAPER, RUN CUTTER OFF PART. BLEND OUT EDGE LONGITUDINALLY; TRANSITION SHOULD BE SMOOTH.
- 10) BEND PROGRESSIVELY WITH A MINIMUM OF 8 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D., EXCEPT UP TO 10% IS ALLOWED IN AREA NOTED.
- 11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 12) INSTALL D2940-1 SUPPORT USING 0.03 TO 0.06 THICK LAYER OF MAGNOBOND 6398 TO THE SURFACE OF D2940-1 THAT WILL BE IN CONTACT WITH THE CROSSTUBE PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 13) INSTALL MS21920-28 CLAMPS (OR -30) WITH D3595-063-530 RUBBER CUSHIONS TO SECURE THE D2940-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE OPPOSITE OF CROSSTUBE SUPPORT.
- 14) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.
- 16) INSTALL D3660-1 CUFF AFTER CHEMICAL CONVERSION COAT BUT BEFORE PAINT, WITH A LAYER OF SIKAFLEX-241/-291 OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT BETWEEN CUFF AND CROSSTUBE. SEAL EDGE OF CUFF TO ENSURE NO GAPS.
- 17) TOUCH-UP HOLES WITH CHEMICAL CONVERSION COAT.

SHOP COPY
RETURN
ENGINEER
UNCONTROLLED BY
SUBJECT TO AMENDMENT
WITHOUT
WORK C
NO 40267
200-6-30

RELEASED

2009-10-7 9

NP

B	REVISE GENERAL NOTES/PART LIST; UPDATE TO CURRENT STANDARDS; ADD-247B (ZN C4-2, DS-2)	RF	09.09.30
A	NEW ISSUE	CP	07.07.07
REV.	DESCRIPTION	BY	DATE
DESIGN:	90	DART AEROSPACE LTD	
DRAWN:	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED:	90	REV. B	
MFG. APPR.	DA	DRAWING NO.	
APPROVED:	100	D212-664-247	SHEET 1 OF 4
DE APPR.	100	TITLE	SCALE
DATE	09.09.30	CROSSTUBE (205/212 LOW AFT)	NTS

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8 7 6 5 4 3 2 1

1

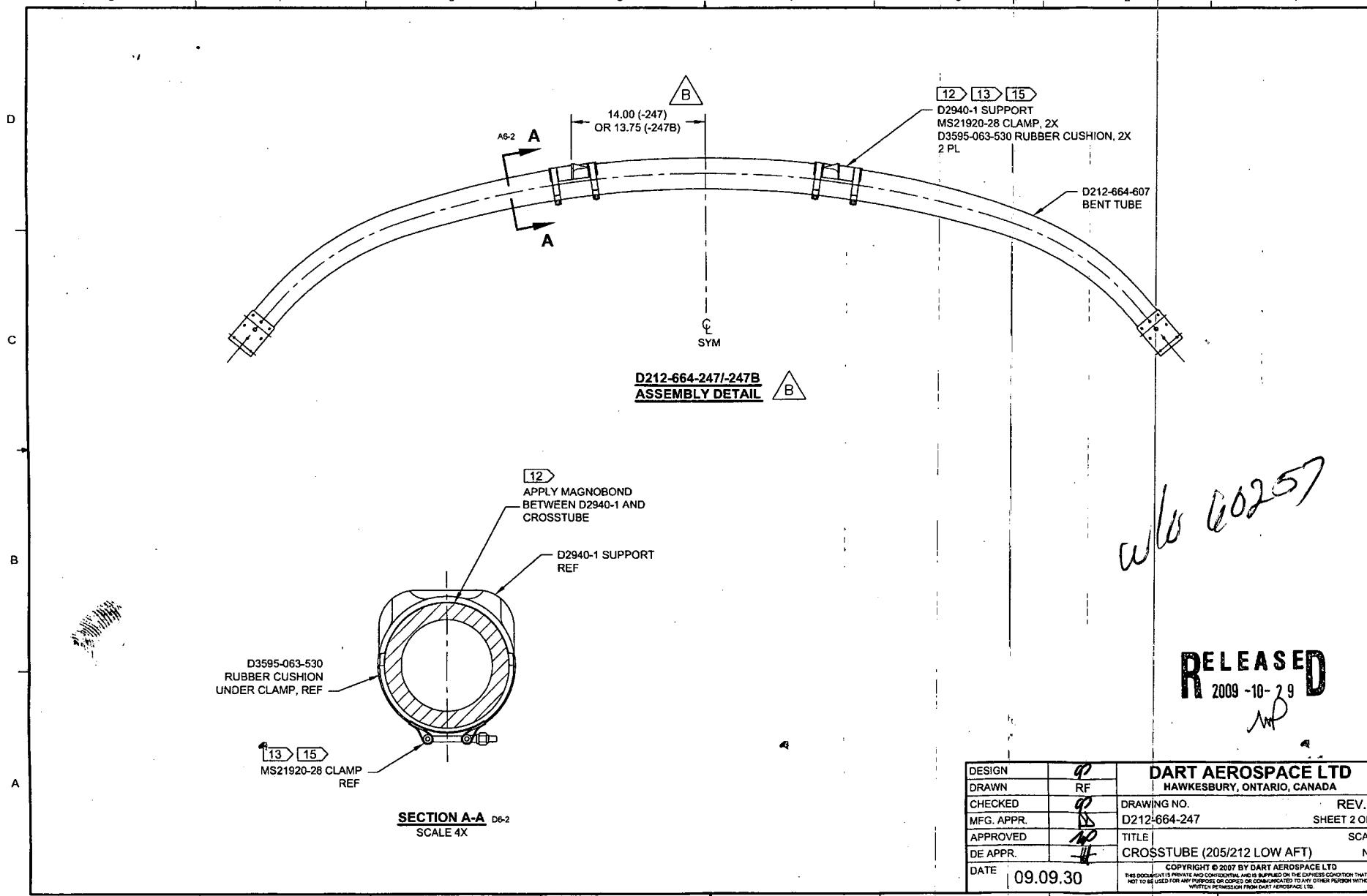
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)								
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector		
			Initial Chief Eng	Action Description Chief Eng	Sign & Date					

NOTE: Date & initial all entries

8 7 6 5 4 3 2 1



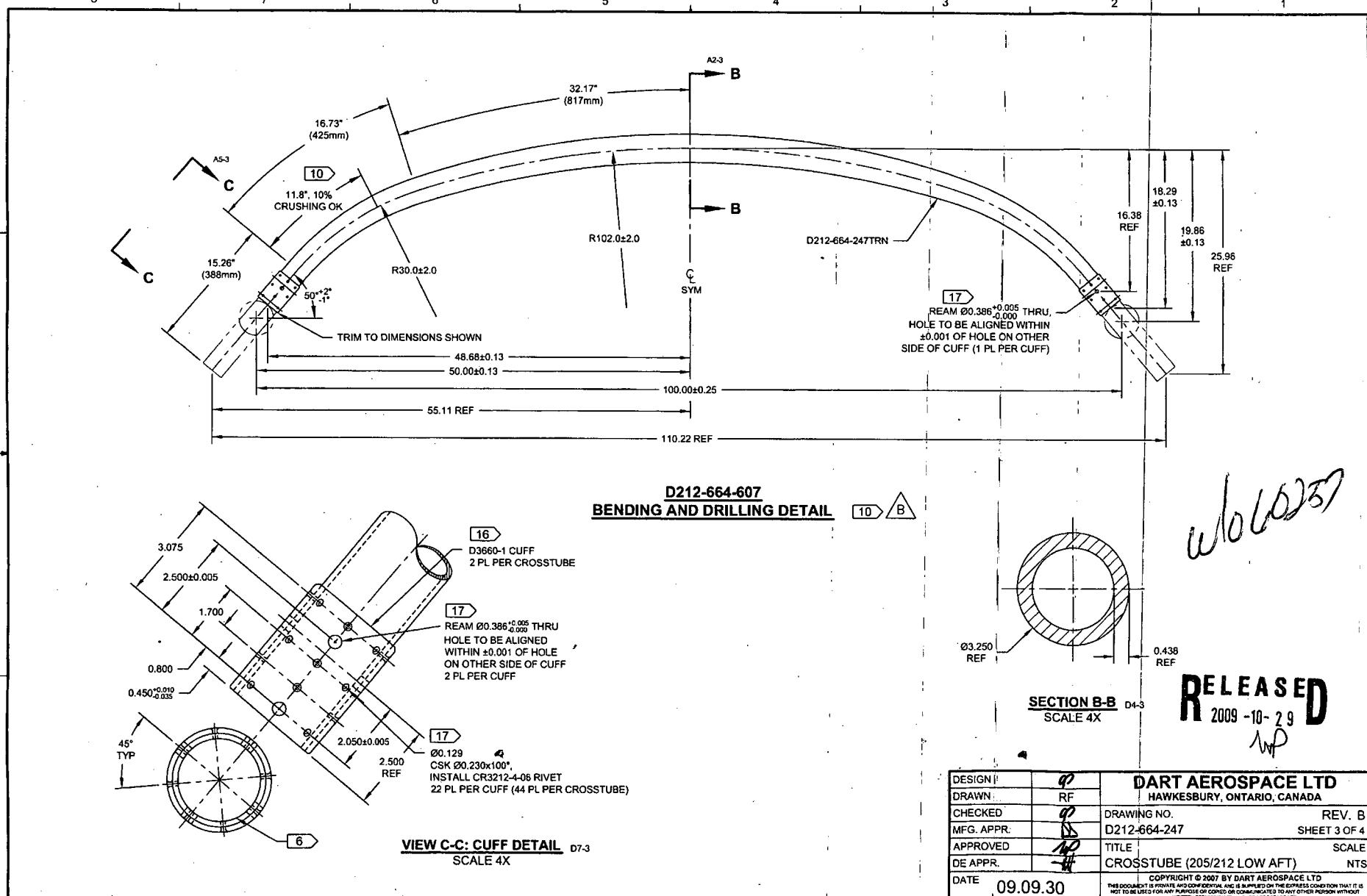
W/O:		WORK ORDER CHANGES							
DATE	STEP	PROCEDURE CHANGE			By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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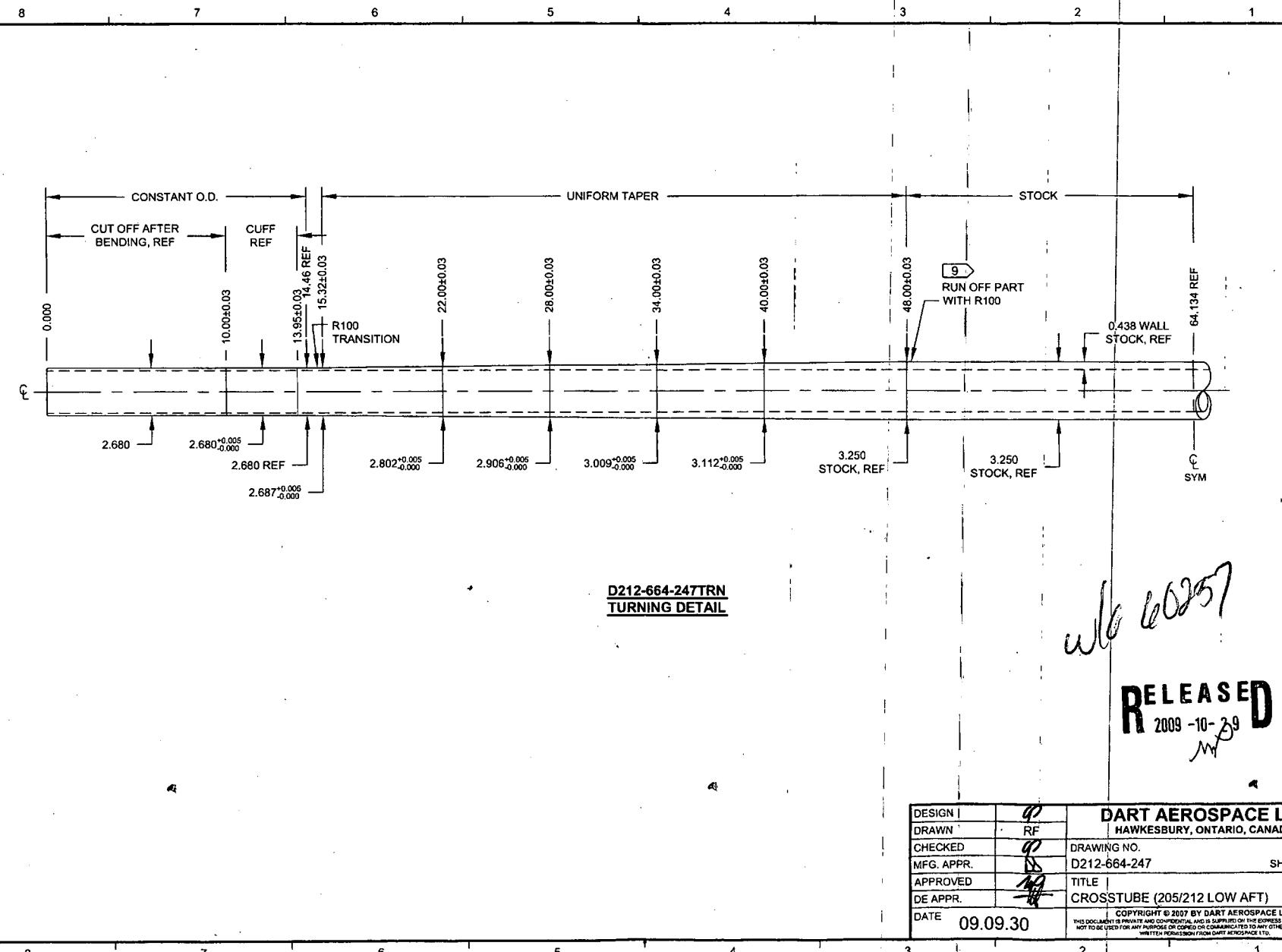


W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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NOTE: Date & initial all entries



W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE		By	Date	Qty	Approval Chief Eng/ Prod Mgr	Approval QC Inspector

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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



LIQUID PENETRANT TEST REPORT

P- 15183

CLIENT DART AEROSPACE DATE JULY-22-2010 TIME AM PM
 ATTENTION LINDA/CHANTEL ACUREN JOB NO. 188-10-0801
 ADDRESS 1270 ABERDEEN ST PO/WO NO. 123091
HAWKES BURY ON. WORK LOCATION HAWKES BURY - ON, SHOP
K6H 1K7 ACCEPTANCE STD. ASTM 1417 REV./DATE 2007
 PROJECT F. P. I. ON CROSS TUBES.
 ITEM(S) EXAMINED 5 UNITS.

JOB DESCRIPTION	PROCEDURE NO. LT-002 REV./DATE	TECHNIQUE NO. LT-TECH2 REV./DATE
PART NO.	MATERIAL <u>Aluminum</u> THICKNESS <u>—</u>	
SCOPE	<u>WET FLUORESCENT LIQUID PENETRANT INSPECTION</u> <u>CARRIED OUT 100% EXTERNAL.</u>	
TEST DETAILS		
METHOD	<input checked="" type="checkbox"/> FLUORESCENT <input type="checkbox"/> VISIBLE	<input checked="" type="checkbox"/> WATER WASH <input type="checkbox"/> SOLVENT REMOVABLE <input type="checkbox"/> POST EMULSIFIED
FAMILY BRAND	<u>MAGNAFLUX</u>	BLACK LIGHT S/N <u>16459</u> <input type="checkbox"/> OUTPUT > 1000 μ W/cm ² <input type="checkbox"/> AMBIENT < 2 fc
PENETRANT	<u>2LG7</u>	MINIMUM DWELL TIME <u>15/10</u> MIN. LIGHTING EQUIP. <input type="checkbox"/> FLASHLIGHT <input type="checkbox"/> TROUBLELIGHT <input type="checkbox"/> OUTPUT > 100 fc @ SURFACE
PENETRANT REMOVER	<u>H2O</u>	MINIMUM DRY TIME <u>>10</u> MIN. OTHER <u>L9310</u>
DEVELOPER	<u>SKD 52</u>	MINIMUM DWELL TIME <u>10</u> MIN. LIGHT METER S/N <u>1098866</u>
DEVELOPER TYPE	<input checked="" type="checkbox"/> NON AQUEOUS <input type="checkbox"/> AQUEOUS <input type="checkbox"/> DRY	CAL DUE DATE <u>OCT 19 2010</u>

TEST SURFACE		
SURFACE CONDITION	<input type="checkbox"/> AS GROUND <input type="checkbox"/> AS WELDED	<input checked="" type="checkbox"/> MACHINED <input type="checkbox"/> SHOT BLASTED <input type="checkbox"/> CLEAN BARE METAL
SURFACE TEMPERATURE	<input type="checkbox"/> < -4°C/ 20°F <input type="checkbox"/> -4°C/ 20°F TO 10°C/50°F	<input type="checkbox"/> 10°C/50°F TO 52°C/125°F <input type="checkbox"/> > 52°C/125°F

RESULTS- <input type="checkbox"/> METRIC <input checked="" type="checkbox"/> IMPERIAL	<p>1 - CROSS TUBE, W.O. 60557 ✓</p> <p>1 - CROSS TUBE, W.O. 60556 ✓</p> <p>1 - CROSS TUBE, W.O. 60449 ✓</p> <p>1 - CROSS TUBE, W.O. 60450 ✓</p> <p>1 - CROSS TUBE, W.O. 60257 ✓</p>		
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Scope of Services

The agreement of Acuren Group Inc. to perform services extends only to those services provided for in writing. Under no circumstances shall such services extend beyond the performance of the requested services. It is expressly understood that all descriptions, comments and expressions of opinion reflect the opinions or observations of Acuren Group Inc. based on information and assumptions supplied by the owner/operator and are not intended nor can they be construed as representations or warranties. Acuren Group Inc. is not assuming any responsibilities of the owner/operator and the owner/operator retains complete responsibility for the engineering, manufacture, repair and use decisions as a result of the data or other information provided by Acuren Group Inc. In no event shall Acuren Group Inc.'s liability in respect of the services referred to herein exceed the amount paid for such services.

Standard of Care

In performing the services provided, Acuren Group Inc. uses the degree, care and skill ordinarily exercised under similar circumstances by others performing such services in the same or similar locality. No other warranty, expressed or implied, is made or intended by Acuren Group Inc.

SIGNATURES

CLIENT REPRESENTATIVE	<u>JASON NURDACK</u> PRINT	<u>J. Nurdack</u> SIGNATURE	DTR # <u>E 27417</u>
TECHNICIAN (SIGNATURE):	<u>Mike Jeffreyston</u>		
NAME (PRINT):	<u>Mike Jeffreyston</u>	1 ST TECHNICIAN	REPORT REVIEWED BY:
CGSB LEVEL	<u>5</u>	SNT LEVEL	<u>5</u>
CGSB REG. NO.	<u>6606</u>	CGSB LEVEL	SNT LEVEL
		CGSB REG. NO.	

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CANARY - OFFICE COPY

PINK - TECHNICIAN COPY

GOLD - OFFICE COPY

5.2 STANDARD GEAR CROSSTUBES

Item	-107	-207	-209	Part Number	Description
	X			D212-664-107	CROSSTUBE INSTALLATION, 204/205/210/212/214/412, UH-1H, UH-1A/B/E/F/L/P, TH-1F/L, HH-1K STANDARD FWD
		X		D212-664-207	CROSSTUBE INSTALLATION, 204/205/210/212/214, UH-1H, UH-1A/B/E/F/L/P, TH-1F/L, HH-1K STANDARD AFT
			X	D412-664-209	CROSSTUBE INSTALLATION, 412 STANDARD AFT
6	1			D212-664-147	CROSSTUBE ASSEMBLY, 204/205/210/212/214/412, UH-1H, UH-1A/B/E/F/L/P, TH-1F/L, HH-1K STANDARD FWD
7		1		D212-664-247	CROSSTUBE ASSEMBLY, 204/205/210/212/214, UH-1H, UH-1A/B/E/F/L/P, TH-1F/L, HH-1K STANDARD AFT
8			1	D412-664-249	CROSSTUBE ASSEMBLY, 412 STANDARD AFT
10	2			* D2893-1	SUPPORT
11	4			* D3595-063-450	RUBBER CUSHION
12	4			* MS21920-25	CLAMP (OR MS21042-26)
13	4			AN6-35A	BOLT
14	4			AN6-36A	BOLT
15	6			MS21042L6	NUT (OR MS21042-6)
16	18			AN960JD616	WASHER
20		2		* D2940-1	SUPPORT
21		4		* D3595-063-530	RUBBER CUSHION
22		4		* MS21920-28	CLAMP (OR MS21042-30)
23		4		AN6-40A	BOLT
24		2		AN6-41A	BOLT
25		6		MS21042L6	NUT (OR MS21042-6)
26		18		AN960JD616	WASHER
30			1	* D2896-1	SUPPORT
31			2	* D2856-600-1009	ABRASION STRIP
32			2	* D3595-063-570	RUBBER CUSHION
33			4	* MS21920-28	CLAMP
34			2	* MS21920-30	CLAMP (OR MS21042-32)
35			4	AN6-40A	BOLT
36			2	AN6-41A	BOLT
37			6	MS21042L6	NUT (OR MS21042-6)
38			18	AN960JD616	WASHER
39			2	* D3189-1	CHAFING SHIELD
45	2			* D3659-1	CUFF
46		2	2	* D3660-1	CUFF
47	44	44		* CR3212-4-06	RIVET (M7885/3-4-06)
48			44	* CR3212-4-07	RIVET (M7885/3-4-07)
50	1	1		D3428-1	PLACARD

*REFERENCE ONLY. PARTS ARE INCLUDED IN D212-664-147/-247 OR D412-664-249 ASSEMBLIES ABOVE
 NOTE: KITS INCLUDE EXTRA HARDWARE FOR COMPATIBILITY WITH BOTH DART AND BELL/AA
 SKIDTUBES.

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Revision: F
 Date: 08.09.05